UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/044,464	01/10/2002	Steven I. Ross	1280.2006-000 (LOT8-2001-	9877

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EXAMINER
ALBERTALLI, BRIAN LOUIS

ART UNIT	PAPER NUMBER
2655	

DATE MAILED: 01/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	10/044,464	ROSS ET AL.
	Examiner	**Art Unit**	
	Brian L Albertalli	2655	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-23* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4,6-11 and 13-23* is/are rejected.

7)☒ Claim(s) *5,12 and 19* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date <u>10/4/04,8/2/04, 5/1/03, 3/26/02</u>

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____ .

DETAILED ACTION

Claim Rejections - 35 USC § 102

1.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2.   Claims 1, 7, 8, 14, 15, and 21-23 are rejected under 35 U.S.C. 102(e) as being

anticipated by Van Tichelen et al. (U.S. Patent 6,311,159).

In regard to claims 1, 8, 15, 22, and 23, Van Tichelen et al. disclose a system

(computer, with an inherent computer program product) and a corresponding method

executed by the system, comprising:

a language generator (Fig. 2B, message generator 36) for receiving a response

representation (utterance semantics) specifying a structured output for use as the basis

for the response output to the user, the response representation associated with a

domain model (description of knowledge) for a speech-enabled application (Fig. 2A,

application 21 communicates with the speech user interface, SUI, in a meaning

representation, which is a description of knowledge using some formalism, column 9,

lines 33-35 and lines 41-43; the message generator 32 converts the utterance

dependent semantics into formal language, column 11, lines 8-10); and

a reasoning facility (dialog manager 32) coupled to the language generator, the

reasoning facility for selecting a syntax template (discourse intentions) based on a goal-

directed rule (intention based on beliefs and desires) invoked in response to the

response representation (the dialog manager 32 uses its beliefs and desires to generate

new intentions, which are converted into utterance meaning in speech action 29,

column 9, lines 6-10, column 10, lines 40-41 and lines 56-59; the intentions are formal

representations of the goals of the dialog manager, column 14, lines 47-49),

the language generator producing the response output based on the selected

syntax template, the response representation, and the domain model (see Figs. 2A and

2B, the meaning representation of the application, which is a description of knowledge

using some formalism, is converted to beliefs in 30, which are used to generate

intentions by the dialog manager 32, which in turn are used to generate the utterance

semantics used by message generator 36 to generate a response; the response,

therefore, is based on the domain model, syntax template, and response

representation).

In regard to claims 2, 9, and 16, Van Tichelen et al. disclose the language

generator (message generator 36) receives the response representation (utterance

semantics) from the reasoning facility (dialog manager 32) that generates the response

representation based on the domain model (application 21 communicates with the

speech user interface, SUI, in a meaning representation, which is a description of

knowledge using some formalism, column 9, lines 33-35 and lines 41-43), a goal-

directed rules database (intentions database 33 that contains conversation data

comprising current intentions, column 14, lines 42-46), and a spoken utterance provided

by the user (speech from the speech layer, column 11, lines 5-8).

In regard to claims 3, 10, and 17, Van Tichelen et al. disclose the response

representation is a goal or proposition based on the spoken utterance (see Fig. 4, a

user speaks a command, column 13, lines 26-29; the intentions developed by the dialog

manager in response to the command are used to develop a quasi logical form

proposition to generate a message for the user, column 14, lines 63-66; see also Fig. 9,

semantic representation (HOWMANYMAILS 5 NEW) is a proposition that there are 5

new emails for the user).

In regard to claims 7, 14, and 21, Van Tichelen et al. disclose the response

output is a text string capable of conversion to audio output (column 11, lines 8-10, and

TTS Fig. 2B, element 26).

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

4.   Claims 4, 11, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Van Tichelen et al.

Van Tichelen et al. disclose that the response representations (utterance semantics) are meaning representations using some formalism (column 9, lines 32-35).

Van Tichelen et al. do not disclose that the proposition comprises an attribute, an object, and a value.

Official notice is taken that it is notoriously well known and recognized in the art to represent knowledge (meaning representations) formally as a set of object-attribute-value triples.

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Van Tichelen et al. to represent the utterance semantics as an object-attribute-value triple, since object-attribute-value triples provide a compact and simple means for representing each "fact" or meaning representation in a knowledge database and provide a format that is easily understood by a human user.

5.   Claims 6, 13, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Van Tichelen et al., in view of Carbonell et al. (U.S. Patent 5,677,835).

Van Tichelen et al. disclose that each application 21 communicates with the speech user interface, SUI, in a meaning representation, which is a description of knowledge using some formalism (column 9, lines 33-35 and lines 41-43).

Van Tichelen et al. do not disclose that the application's domain model is an ontological description of the domain model.

Carbonell et al. disclose a domain model for representing knowledge that comprises an ontological description based on entities (objects), classes (event-types), and attributes (properties, column 15, line 65 to column 16 line 2), and a lexicon providing synonyms and parts of speech information for elements of the ontological description (Kernel Domain Model provides all lexical information, column 16, line 66 to column 17, line 4).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Van Tichelen et al. to use the domain model as disclosed by Carbonell et al. as the description of knowledge, since the domain model provides a human readable structure to facilitate maintenance and extensions, as taught by Carbonell et al. (column 17, lines 26-29).

Allowable Subject Matter

6.   Claims 5, 12, and 19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: Van Tichelen et al. do not disclose that the language generator (message generator 36) provides any of the generation of goals (intentions). Van Tichelen et al. determines all the goals (intentions) in the reasoning facility (dialog manager 32) and does not provide any suggestion that the language generator (message generator) could be modified to provide any kind of reasoning capabilities.
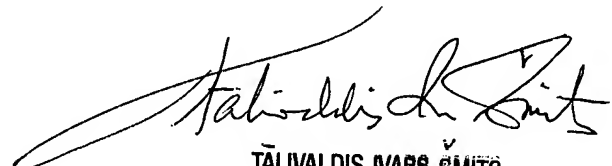
Conclusion

7.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Tokuume et al. (U.S. Patent 5,101,349) disclose a natural language processor. Gardner et al. (U.S. Patent 5,239,617) disclose a system for providing intelligent help menus based on natural language processing. Rohra Suda et al. (U.S. Patent 5,282,265) disclose a goal based natural language response unit. Fukui et al. (U.S. Patent 5,918,222) disclose a response generator that stores a set of response rules. Suda et al. (U.S. Patent 6,023,669) disclose using a knowledge base to convert information expressed by concept to language. Strubbe et al. (U.S. Patent 6,721,706) disclose a system that generates responses based on mood. Martinka et al. (U.S. Patent 6,728,692) disclose an ontological knowledge base.

8.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian L Albertalli whose telephone number is (703) 305-1817. The examiner can normally be reached on Mon - Fri, 8:00 AM - 5:30 PM, every second Fri off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Talivaldis Smits can be reached on (703) 305-3011. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BLA 1/5/05

TALIVALDIS IVARS SMITS
PRIMARY EXAMINER